

REMARKS

## Claim Amendments

Claim 12 has been amended to recite that an anode comprising bacterial cellulose or a cathode comprising bacterial cellulose are held together to the electrolyte membrane by hydrogen bonds as described at page 11 , lines 9-20 of the application. New claim 25 has been added to recite where both an anode comprising bacterial cellulose and a cathode comprising bacterial cellulose are held together to the electrolyte membrane by hydrogen bonds.

## Rejections

Claims 12-14, 16 and 21-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,087,032 to Yoshitake *et al.* ("Yoshitake") in view of WO 89/12107 to Brown ("WO '107"). Claim 15 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Yoshitake" and WO '107 in view of U.S. Patent No. 5,207,826 to Westland *et al.* ("Westland").

Yoshitake was cited as disclosing a fuel cell comprising an electrolyte membrane, a fuel electrode and an air electrode. A previous Office Action conceded that Yoshitake does not disclose specific anode or cathode material. It should be further noted that Yoshitake does not disclose the use of bacterial cellulose in an electrolyte membrane.

Brown was cited as teaching that bacterial cellulose can be used as membranes and/or specialty components for fuel cells and/or materials having special electronic properties. Brown was also cited as teaching that bacterial cellulose can be dehydrated.

Westland was cited in the Office Action as teaching that a base medium for bacterial cellulose may comprise metal salts and that bacterial cellulose can be coated with metals.

Looking at amended independent claim 12, it can be seen that the claimed invention now includes an anode comprising bacterial cellulose or a cathode comprising bacterial cellulose that are held together to the electrolyte membrane by hydrogen bonds. This can be achieved by dehydrating at least one of the electrolyte membrane and the anode or cathode while in contact with each other. Nothing in Yoshitake, Brown or Westland teaches or suggests holding together the electrolyte membrane and the anode or cathode while dehydrating these components and therefore, any structures taught or suggested in Yoshitake, Brown or Westland would not have the hydrogen bonding feature now recited in claim 12.

The Inventor's Declaration submitted December 10, 2004 in the present application noted at paragraph 4 that the "type of fuel cell assembly described and claimed in the present application is unique in that it exploits the formation of new hydrogen bonds between adjacent cellulose fibers during the drying process to seal together the layers of cellulose." Also, page 11, lines 14-15 of the application state that because of these hydrogen bonds "no adhesives are required to hold the multi-layered structure together". Thus, the feature added to independent claim 12 provides advantages over the prior art

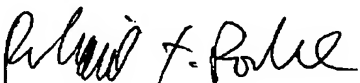
Accordingly, it is believed that amended independent claim 12, and claims 13-16 and 21-25 that depend thereon, are patentable over Yoshitake, Brown and Westland

Conclusion

It is submitted that the entire application is in condition for allowance. Other than the two month extension and RCE fee, additional fees are not believed to be needed for this amendment. If additional fees are needed, please charge them to Deposit Account 17-0055.

Respectfully submitted,  
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